DOCUMENT RESUME

ED 407 164 PS 025 413

AUTHOR Horner, Sherri L.
TITLE The Effects of Observational Learning on Preschoolers' Alphabet Knowledge.
PUB DATE 97
NOTE 21p.; Paper presented at the Meeting of the Eastern Educational Research Association (Hilton Head Island, SC, 1997).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Attention; Emergent Literacy; Imitation; Learning Processes; *Letters (Alphabet); *Modeling (Psychology); *Observational Learning; *Preschool Children; Preschool Education; Questioning Techniques; Social Cognition
IDENTIFIERS Alphabet Books

ABSTRACT

This study examined the effects of observational learning on preschoolers' attention to print, use of a questioning technique, and knowledge of the alphabet. Participating were 13 boys and 13 girls from a day care center at a community college, with a mean age of 4.3 years. Children were randomly assigned to one of three training conditions, each comprised of a 4.5-minute videotaped sequence of an adult reading to a model child from a project-developed alphabet book. They were: (1) picture-focused videotape, in which the model child asked a question about the picture; (2) print-focused videotape, in which the child pointed to the print and asked a question about it; and (3) no-questions videotape, in which the child listened to the adult without speaking. After viewing the videotapes, children were read an alphabet book and their behavior observed. Pre- and posttests were also given on knowledge of the alphabet and print concepts. Results indicated that children who viewed a child model ask questions about the print in an alphabet book attended to the print more than children in the other groups. Although not statistically significant, children who observed a child model use a questioning technique asked more questions than children who observed a silent model. Preschoolers who focused on the print at least once showed larger pre-post gains on an uppercase letter naming task than preschoolers who did not focus on the print at all. Although not statistically significant, the children who imitated the model had slightly more letter and print concept knowledge before viewing the videotapes. (Contains 21 references.) (KDFB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Running head: OBSERVATIONAL LEARNING

ED 407 164

The Effects of Observational Learning on Preschoolers' Alphabet Knowledge

Sherri L. Horner

CUNY Graduate School and University Center

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
Sherri L. Horner
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Paper presented at the 1997 meeting of the Eastern Educational Research Association, Hilton Head Island, SC.

PS 025413

BEST COPY AVAILABLE

Abstract

This study investigated the effects of observational learning on preschoolers' attention to print, use of a questioning technique, and knowledge of the alphabet. Those children who viewed a child model ask questions about the print in an alphabet book learned to pay attention to the print. Although not statistically significant, the children who observed a child model use a questioning technique asked more questions than those children who did not observed a model who did not ask questions. Preschoolers who focused on the print showed larger gains on an uppercase letter naming task than preschoolers who did not focus on the print.

Reading is a highly complicated and multifaceted activity (Ehri, 1995). Thus, a child who learns to read must acquire a wide variety of skills (Adams, 1990). Many of these skills can be developed simultaneously through formal instruction but others are actually precursors to reading. These precursors are considered "emergent literacy" skills since children at this stage can not read per se but are learning to be conscious of print, its meaning, and its functions. The present research study investigated letter name knowledge, one component of emergent literacy.

Much research has documented the importance of letter name knowledge to future reading achievement. For instance, Chall (1967, 1983) and Share, Jorm, MacLean, and Matthews (1984) have found that children's letter name knowledge in kindergarten and first grade was highly correlated with their first and second grade reading achievement.

Reasons for the relationship between letter name knowledge and reading achievement have been suggest by Ehri (1995) in her developmental model of word-reading. She proposes four phases through which children develop word-reading skills: 1) visual cue; 2) rudimentary alphabetic; 3) mature alphabetic; and 4) spelling pattern phases. The present study examines children during the transition from the visual cue phase into the rudimentary alphabetic phase. Because children in the visual cue phase do not have a completely formed letter knowledge base, they utilize other contextual elements to read words (e.g., use the red octagon

to read STOP on a stop sign). As children learn more about letters they begin to utilize some, but not all, letters and sounds to remember words. Once children begin this process they move into the rudimentary phase. "To prepare students for the rudimentary alphabetic phase of reading, they need to learn how to name and to write letters" (Ehri, 1995, p. 181).

It has been assumed that shared storybook reading is one of the primary ways by which children gain alphabet-related knowledge (see Scarborough & Dobrich, 1994 for a review). However, research has shown that the interaction within a shared reading context usually centers on the meaning of the story and the pictures rather than on the print. Very few questions or comments are spontaneously made about the print by young children (Yaden, 1982; Yaden, Smolkin, & Conlon, 1989). The present study investigates whether children can learn to focus their attention on the print and therefore increase their knowledge of alphabet letters.

One highly successful method of learning is through observing a model. People can learn many behaviors, thought patterns, and skills vicariously through observing other people (Bandura, 1986). Observational learning occurs when an observer abstracts a rule or concept underlying the model's behavior. After abstracting a rule, the observer can then use it to act in similar situations (Zimmerman & Rosenthal, 1974b).

Social cognitive theorists have devoted much time and effort to investigating the influence of observational learning on children's concept attainment and rule-governed behaviors. Rosenthal, Zimmerman, and their colleagues did a series of studies (Rosenthal, Alford, & Rasp, 1972; Rosenthal & Whitebrook, 1970; Rosenthal, Zimmerman, & Durning, 1970; Zimmerman & Pike, 1972; Zimmerman & Rosenthal, 1972a, 1972b, 1974a) assessing preschool- and elementary-aged children's performance of various rule-governed behaviors after being exposed to different teaching methods. In all studies, the modeling groups performed at a higher rate than the controls. These studies showed that preschool and elementary-aged children can learn abstract principles vicariously. Overall, modeling was shown to be more effective than instructions or reinforcement in inducing behavior changes (Zimmerman & Rosenthal, 1972a, 1972b, 1974a; Zimmerman & Pike, 1972). The present study furthers this social cognitive research by examining the effects of observational learning within a literacy context.

The purpose of the present study is to examine the relationship between preschool children's knowledge of the alphabet, use of a questioning technique, and focus of attention within the social context of a shared book-reading episode. Therefore, the following hypotheses are proposed:

1. Preschoolers who observe a child model focus on print will focus on the print more frequently than preschoolers who observe a child model focus on the picture or

passively listen during a shared alphabet book reading.

2. Preschoolers who observe a child model use a questioning technique will ask more questions than preschoolers who observe a child who does not model a questioning technique during a shared alphabet book reading.
3. Preschoolers who focus on print will recall more training letter shape-names than those children who do not focus on the print.

Methods

Participants

The sample was composed of 26 preschool children (13 boys and 13 girls) from a daycare center at a community college in New York City. The average age was 4.3 years, with a range from 3.3 to 5.2 years.

Materials

Alphabet Books. The researcher developed two alphabet books, each consisting of five uppercase letters repeated five times. A letter and a word beginning with that letter were centered on the left-hand page with a black-and-white picture on the corresponding right-hand page. Book One (S,B,M,A,D) was utilized for all videotape episodes and Book Two (H,L,W,G,F) was used for the posttests.

Videotapes. Three modeling episodes, lasting approximately four-and-one-half minutes, were created. A white woman and a white seven-year-old boy served as the models. In each videotape the adult read and pointed to the letter then read the word while running her finger underneath it.

After every child utterance, she praised the child then repeated his response. In the picture-focused videotape, the child model pointed to the pictures on each page and asked a question about the picture (e.g., Is this a spider?). In the print-focused videotape, the child model pointed to the print on each page and asked a question about the print (e.g., Is this an S?). In the no-questions videotape, the child model listened to the adult without speaking.

Pretests

The researcher pretested each child on his or her knowledge of alphabet recitation, uppercase letter name-shape, word-letter shape correspondence, and letter writing (adapted from Worden & Boettcher, 1990) and concepts about print (adapted from Clay, 1985).

Training and Posttests

The children were randomly assigned to one of the three training groups. Directly after watching the modeling episode, the researcher read Book Two with the child. Then the researcher gave the child a posttest of letter name-shape knowledge for the ten training letters.

Results

One-way analyses of variance (ANOVAs) showed that the training groups did not differ significantly on any pretest measure (see Table 1). To test the first hypothesis, the children's responses during the alphabet book reading episode were analyzed. Each response, both physical (i.e., pointing) and verbal (i.e., comments and questions), was

coded as either a print-related or picture-related. An ANOVA was run (see Table 2) and the training groups were significantly different in their focus on print, F (2, 25) = 4.44, $p<.05$. Post-hoc Tukey tests revealed that the print-focus videotape group focused on print more frequently than either the picture-focus or the no-questions videotape group, which did not differ significantly from each other. Therefore, as hypothesized, watching a child model focus on print during a shared book reading episode increased children's attention to the print.

To test the second hypothesis, children who viewed a questioning model (i.e., print and picture videotape groups) were compared to those who did not (i.e., no-questions videotape group; see Table 2). The total number of questions similar to the modeled questioning technique was calculated. The questions group showed a higher usage of the questioning technique than the no-questions videotape group; however, these differences were not statistically significant.

To test the third hypothesis, the posttest scores of the children who focused on print at least once were compared to those children who never mentioned the print (see Table 2). There was no significant difference between the two groups. However, the children who focused on the print did have a greater gain between their pretest letter shape-name score and their posttest score (see figure 1).

Discussion

The present research represents an initial effort to test the social cognitive perspective within the realm of emergent literacy. The results indicate that young children are able to extract a concept or rule (i.e., focus on print) through a brief episode to observational learning. These results are of practical significance since many behaviors and concepts surrounding literacy, especially during the preschool years, are not taught explicitly.

None of the seven children who viewed the passive model asked a target question. Of the 19 preschoolers who viewed the child model ask questions, six (three in each group) imitated the child model at least once. Two children (one in each group) asked a question for at least 90% of the pages.

There are several possible explanations for the differences in performance of the children who watched a model ask questions. First, individual differences were analyzed. Children who imitated the model did not differ from the complete sample according to age. The average target letter pretest scores for imitators was 3.5 (range = 0-9) and for non-imitators 2.9 (range = 0-8). The imitators had a slightly higher mean score on the Concepts about Print pretest (3.8, range = 2-5) than the non-imitators' mean score (3.3, range 2-5). Therefore, although there were no significant differences between these children, the participants who imitated the model had slightly more knowledge, on average, about the target letters and concepts about print before viewing the videotape. This finding is

similar to Robbins and Ehri's (1994) results. In that study, children who had high vocabulary pretest scores learned more vocabulary words during a shared storybook reading than children who had low vocabulary pretest scores.

Another possible explanation why many of the children did not imitate the model could be the short exposure to the modeling techniques. The participants viewed the videotape once. Several factors give added weight to this contention. Robbins and Ehri (1994) found that kindergartners needed multiple exposures to the target words to facilitate learning. Senechal and Cornell (1993) also found that children did not learn novel words if the storybook was read only once. Within the present study, one child watched the print focus videotape and read the alphabet book twice (a week apart). After the first exposure, she asked one target question but after the second exposure she asked a question for each page (25 questions). Perhaps preschoolers need multiple exposures to a model asking questions in order to extract the concept of question asking. Future research is investigating this aspect.

The findings of this research carry implications for parent and teacher practice. They indicate that preschoolers can shift their attention from the pictures to the print through a brief exposure to a videotape of a child model. Teachers, parents, and educational television companies (e.g., Children's Television Workshop) could utilize videotaped or live children to model literacy-related

behaviors and concepts. Teachers and parents could also model a focus on print themselves, especially when reading alphabet books. Teachers and parents should read aloud to preschoolers daily. They should point to the print and encourage questions and comments about the print.

References

Adams, M. (1990). Beginning to Read: Thinking and Learning about Print. Cambridge, MA: MIT Press.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Chall, J. S. (1967). Learning to read: The great debate. New York: McGraw-Hill.

Chall, J. S. (1983). Learning to read: The great debate. Updated ed. New York: McGraw-Hill.

Clay, M. M. (1985). The early detection of reading difficulties. Birkenhead, Auckland: Heinemann.

Ehri, L. C. (1995). Teachers need to know how word reading processes develop to teach reading effectively to beginner readers. In C. Hedley, P. Antonacci, & M. Rabinowitz (Eds.), Thinking and literacy: The mind at work (pp. 167-188). Hillsdale, NJ: Erlbaum.

Robbins, C. & Ehri, L. C. (1994). Reading storybooks to Kindergartners helps them learn new vocabulary words. Journal of Educational Psychology, 86, 1-11.

Rosenthal, T. L., Alford, G. S., & Rasp, L. M. (1972). Concept attainment, generalization, and retention through observation and verbal coding. Journal of Experimental Child Psychology, 13, 183-194.

Rosenthal, T. L., & Whitebook, J. S. (1970). Incentives versus instructions in transmitting grammatical parameters with experimenter as model. Behavioral Research and Therapy,

BEST COPY AVAILABLE

8, 189-196.

Rosenthal, T. L., Zimmerman, B. J., & Durning, K. (1970). Observationally-induced changes in children's interrogative classes. Journal of Personality and Social Psychology, 16, 681-688.

Senechal, M., & Cornell, E. H. (1993). Vocabulary acquisition through shared reading experiences. Reading Research Quarterly, 28, 360-374.

Scarborough, H. S. & Dobrich, W. (1994). On the efficacy of reading to preschoolers. Developmental Review, 14, 245-302.

Share, D. L., Jorm, A. F., MacLean, R., & Matthews, R. (1984). Sources of individual differences in reading acquisition. Journal of Educational Psychology, 76, 1309-1324.

Worden, P. E., & Boettcher, W. (1990). Young children's acquisition of alphabet knowledge. Journal of Reading Behavior, 22, 277-295.

Yaden, D. B., (1982). A categorization of two children's questions about print as they learn to read: A case study. Paper presented at the annual meeting of the Oklahoma Reading Conference of the IRA. Lawton, OK: March 12-13.

Yaden, D. B., Jr., Smoklin, L. B., & Conlon, A. (1989). Preschoolers' questions about pictures, print conventions, and story text during reading aloud at home. Reading Research Quarterly, 24, 188-215.

Zimmerman, B. J., & Pike, E. O. (1972). Effects of modeling and reinforcement on the acquisition and generalization of question-asking behavior. Child Development, 43, 892-907.

Zimmerman, B. J., & Rosenthal, T. L. (1972a). Concept attainment, transfer, and retention through observation and rule-provision. Journal of Experimental Child Psychology, 14, 139-150.

Zimmerman, B. J., & Rosenthal, T. L. (1972b). Observation, repetition, and ethnic background in concept attainment and generalization. Child Development, 43, 605-613.

Zimmerman, B. J., & Rosenthal, T. L. (1974a). Conceptual generalization and retention by young children: Age, modeling, and feedback effects. The Journal of Genetic Psychology, 125, 233-245.

Zimmerman, B. J., & Rosenthal, T. L. (1974b). Observational learning of rule-governed behavior by children. Psychological Bulletin, 81, 29-42.

Table 1
Chacteristics and Mean (and Standard Deviations) Pretest Performances

Dependent Measure	Training Group: Print Questions (n=9)	Picture Questions (n=10)	No Questions (n=7)	F(df=25)
Sex	F=4:M=5	F=5:M=5	F=4:M=3	< 1 (n.s.)
Age (months)	51.00 (7.94)	52.60 (7.00)	51.43 (5.88)	< 1 (n.s.)
ABC Recitation (max=4)	2.22 (1.09)	2.70 (0.67)	3.00 (0.82)	1.63 (n.s.)
Target Letter Names (max=10)	2.78 (3.38)	3.40 (3.72)	4.57 (2.44)	< 1 (n.s.)
Target Letters Writing (max=10)	0.89 (1.69)	2.30 (2.87)	2.71 (2.81)	1.23 (n.s.)
Target Letters-Words (max=10)	0.11 (0.33)	0.50 (1.08)	0.71 (1.25)	< 1 (n.s.)
Concepts about Print (max=5)	3.67 (1.12)	3.30 (1.06)	3.14 (1.07)	1.03 (n.s.)

Note. max = maximum score; n.s. = non-significant.
* p<.05

Table 2
Mean (and Standard Deviations) Posttest Performances

	Training Group		
Dependent Measure	Print Questions (n=9)	Picture Questions (n=10)	No Questions (n=7)
Print Focus	16.22 (16.74)$_a$	04.10 (06.21)$_b$	02.00 (02.31)$_b$
Picture Focus	20.11 (10.36)	18.80 (13.89)	16.29 (13.25)

	Questions (n=19)	No Questions (n=7)	F (df=25)
Target Questions	03.63 (08.13)	00.00 (00.00)	1.36 (n.s.)

	Focus on Print (n=16)	No Focus on Print (n=10)	F (df=25)
Letter Names	3.69 (3.77)	4.40 (4.03)	1.53 (n.s.)

Note. Row means with different subscripts differ significantly;
n.s. = non-significant; $p<.05$

Figure 1: Letter Name Knowledge